CLAIMS

1.   (Currently Amended) A method for managing network traffic, comprising:

provisioning an internet protocol (IP) network for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links;

monitoring the IP network for a congestion event;

upon detecting a congestion event, selecting a label switched path (LSP) of the IP network for reroute;

computing a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one **IP link and at least one** lightpath of a wavelength division multiplex (WDM) topology coupled to the IP network;

determining whether performance of the hybrid path route for the selected LSP reduces costs; and

if the hybrid path route reduces costs:

activating a new IP link on each of the at least one lightpaths of the WDM topology; and

rerouting the selected LSP according to the hybrid path route.

2.   (Original) The method of Claim 1, further comprising decommissioning an idle IP link after rerouting the selected LSP.

3.   (Original) The method of Claim 1:

further comprising receiving a transformed topology constructed by an optical transport service provider of the WDM topology, the transformed topology comprising a subset of available lightpaths of the WDM topology; and

wherein the hybrid path is computed based on the transformed topology.

4.   (Original) The method of Claim 1, wherein determining whether performance of the hybrid path route for the selected LSP reduces costs comprises accounting for a cost associated with each IP link and each lightpath of the hybrid path route.

5.　　(Original) The method of Claim 1, wherein activating a new IP link on each of the at least one lightpaths of the WDM topology comprises:

allocating an unused router port on each end of each of the at least one lightpaths; and

activating the allocated router ports with respective established lightpaths.

6.　　(Original) The method of Claim 1, wherein each of the plurality of nodes of the IP network comprises an IP router.

7.　　(Original) The method of Claim 1, wherein each of the lightpaths of the WDM topology couples optical crossconnects of the WDM topology.

8.　　(Canceled)

9.   (Currently Amended) A system for managing network traffic, comprising:

an internet protocol (IP) network for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links;

a wavelength division multiplex (WDM) topology coupled to the IP network, the WDM topology comprising a plurality of lightpaths operable to communicate optical traffic; and

a controller operable to:

provision the IP network for communicating traffic;

monitor the IP network for a congestion event;

upon detecting a congestion event, select a label switched path (LSP) of the IP network for reroute;

compute a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one **of the IP links and at least one** of the plurality of lightpaths of the WDM topology;

determine whether performance of the hybrid path route for the selected LSP reduces costs; and

if the hybrid path route reduces costs:

activate a new IP link on each of the at least one lightpaths of the plurality of lightpaths of the WDM topology; and

reroute the selected LSP according to the hybrid path route.

10.   (Original) The system of Claim 9, wherein the controller is further operable to decommission an idle IP link after rerouting the selected LSP.

11.   (Original) The system of Claim 9, wherein:

the controller is further operable to receive a transformed topology constructed by an optical transport service provider of the WDM topology, the transformed topology comprising a subset of available lightpaths of the WDM topology; and

wherein the hybrid path is computed based on the transformed topology.

12.   (Original) The system of Claim 9, wherein a controller operable to determine whether performance of the hybrid path route for the selected LSP reduces costs comprises a controller operable to account for a cost associated with each IP link and each lightpath of the hybrid path route.

13.   (Original) The system of Claim 9, wherein a controller operable to activate a new IP link on each of the at least one lightpaths of the plurality of lightpaths of the WDM topology comprises a controller operable to:
        allocate an unused router port on each end of each of the at least one lightpaths; and
        activate the allocated router ports with respective established lightpaths.

14.   (Original) The system of Claim 9, wherein each of the plurality of nodes of the IP network comprises an IP router.

15.   (Original) The system of Claim 9, wherein each of the plurality of lightpaths of the WDM topology couples optical crossconnects of the WDM topology.

16.   (Canceled)

17.   (Currently Amended) Logic for managing network traffic, the logic encoded in computer readable media and operable when executed to:

provision an internet protocol (IP) network for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links;

monitor the IP network for a congestion event;

upon detecting a congestion event, select a label switched path (LSP) of the IP network for reroute;

compute a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one **IP link and at least one** lightpath of a wavelength division multiplex (WDM) topology coupled to the IP network;

determine whether performance of the hybrid path route for the selected LSP reduces costs; and

if the hybrid path route reduces costs:

activate a new IP link on each of the at least one lightpaths of the WDM topology; and

reroute the selected LSP according to the hybrid path route.

18.   (Original) The logic of Claim 17, further operable when executed to decommission an idle IP link after rerouting the selected LSP.

19.   (Original) The logic of Claim 17:

further operable when executed to receive a transformed topology constructed by an optical transport service provider of the WDM topology, the transformed topology comprising a subset of available lightpaths of the WDM topology; and

wherein the hybrid path is computed based on the transformed topology.

20.   (Original) The logic of Claim 17, wherein logic operable when executed to determine whether performance of the hybrid path route for the selected LSP reduces costs comprises logic operable when executed to account for a cost associated with each IP link and each lightpath of the hybrid path route.

21.   (Original) The logic of Claim 17, wherein logic operable when executed to activate a new IP link on each of the at least one lightpaths of the WDM topology comprises logic operable when executed to:

allocate an unused router port on each end of each of the at least one lightpaths; and

activate the allocated router ports with respective established lightpaths.

22.   (Original) The logic of Claim 17, wherein each of the plurality of nodes of the IP network comprises an IP router.

23.   (Original) The logic of Claim 17, wherein each of the lightpaths of the WDM topology couples optical crossconnects of the WDM topology.

24.   (Canceled)

25.   (Original) A system for managing network traffic, comprising:

means for provisioning an internet protocol (IP) network for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links;

means for monitoring the IP network for a congestion event;

means for, upon detecting a congestion event, selecting a label switched path (LSP) of the IP network for reroute;

means for computing a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one IP link and at least one lightpath of a wavelength division multiplex (WDM) topology coupled to the IP network;

means for determining whether performance of the hybrid path route for the selected LSP reduces costs; and

if the hybrid path route reduces costs:

means for activating a new IP link on each of the at least one lightpaths of the WDM topology; and

means for rerouting the selected LSP according to the hybrid path route.

26.   (Original) The system of Claim 25, further comprising means for decommissioning an idle IP link after rerouting the selected LSP.

27.   (Original) The system of Claim 25:

further comprising means for receiving a transformed topology constructed by an optical transport service provider of the WDM topology, the transformed topology comprising a subset of available lightpaths of the WDM topology; and

wherein the hybrid path is computed based on the transformed topology.

28.   (Original) The system of Claim 25, wherein means for determining whether performance of the hybrid path route for the selected LSP reduces costs comprises means for accounting for a cost associated with each IP link and each lightpath of the hybrid path route.

29.   (Original) The system of Claim 25, wherein means for activating a new IP link on each of the at least one lightpaths of the WDM topology comprises:

means for allocating an unused router port on each end of each of the at least one lightpaths; and

means for activating the allocated router ports with respective established lightpaths.

30.   (Original) The system of Claim 25, wherein each of the plurality of nodes of the IP network comprises an IP router.

31.   (Original) The method of Claim 25, wherein each of the lightpaths of the WDM topology couples optical crossconnects of the WDM topology.

32.   (Canceled)

33.   (Original) A method for managing network traffic, comprising:

provisioning an internet protocol (IP) network for communicating traffic, the IP network comprising a plurality of nodes coupled by IP links, each of the plurality of nodes comprising an IP router;

monitoring the IP network for a congestion event;

upon detecting a congestion event, selecting a label switched path (LSP) of the IP network for reroute;

receiving a transformed topology constructed by an optical transport service provider of a wavelength division multiplex (WDM) topology, the transformed topology comprising a subset of available lightpaths of the WDM topology, each lightpath of the WDM topology coupling optical crossconnects of the WDM topology;

computing, based on the transformed topology, a hybrid path route for the selected LSP between a first node and a second node of the plurality of nodes, the hybrid path route comprising at least one IP link and at least one lightpath of the WDM topology coupled to the IP network;

determining whether performance of the hybrid path route for the selected LSP reduces costs;

if the hybrid path route reduces costs:

activating a new IP link on each of the at least one lightpaths of the WDM topology; and

rerouting the selected LSP according to the hybrid path route; and

decommissioning an idle IP link after rerouting the selected LSP.